Data protection is an everyday risk that far too many users are not addressing. Using any storage device that protects against hard drive failure is a great start, but it does not protect against major disasters, such as fire, flood, or theft. Truly dependable backup means backing up storage both onsite and offsite. The best practice for any backup is "3-2-1" level of protection:

- 3 copies of any data that needs to be kept
- 2 different devices, for protection against device failure
- 1 location specifically designated for offsite data protection

Drobo direct-attached storage serves very well as high-performance protected storage with great scalability for your primary copy. A second Drobo could work in tandem with a primary Drobo for a consolidated backup, it is the 3rd copy of data offsite that is the biggest challenge for most people, especially if they have a large amount of data to protect. Cloud backup is not always practical for protecting large amounts (terabytes) of data due to the recurring cost of cloud storage and the bandwidth required for uploading and downloading the data.

However, it is possible to use another Drobo at a designated offsite location to store large amounts of data without recurring costs or storage limits. This guide provides easy instructions for configuring Carbon Copy Cloner for onsite and offsite backup. Carbon Copy Cloner is a paid program that has many features that we will not cover in this guide.

Topics

■ **Provisioning Drobo Storage**

■ **Backing up to an onsite Drobo using Carbon Copy Cloner**

■ **Backing up a Drobo to another Drobo on the same network**

What You Will Need

- Either a Drobo DAS/NAS (Mini/Drobo 5N or newer)
- The Latest Drobo Dashboard management software
  http://www.drobo.com/support/updates.php
- Two Macs with OSX – 10.12 or newer (Carbon Copy Cloner is Mac OS X only), and two Drobos
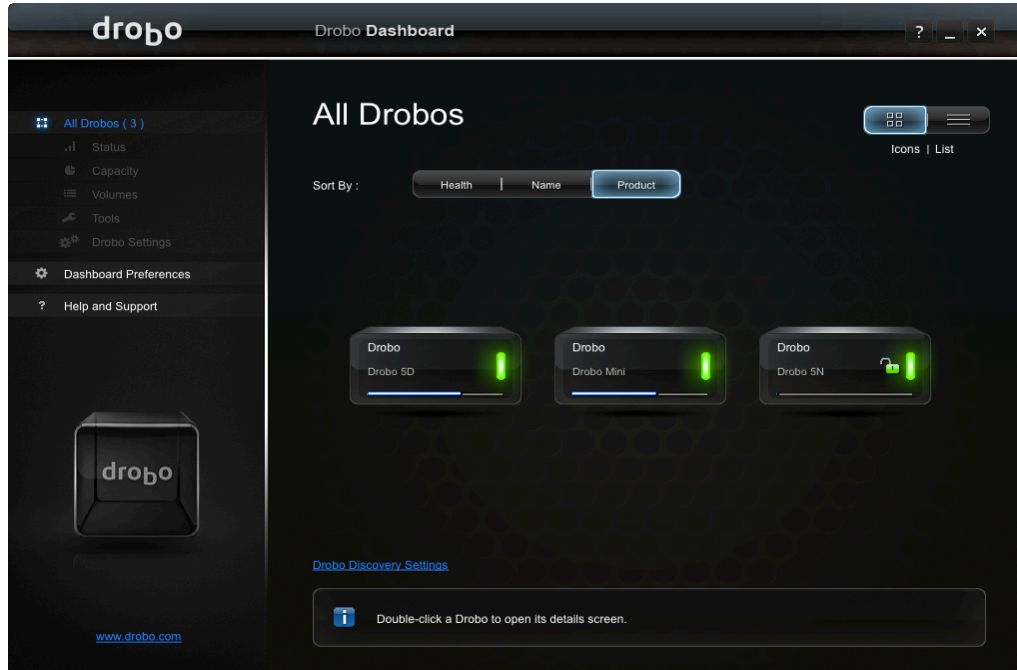 Only for network replication

Prerequisites

This document assumes that there is a Drobo already connected to a host computer with Drobo Dashboard running on it.

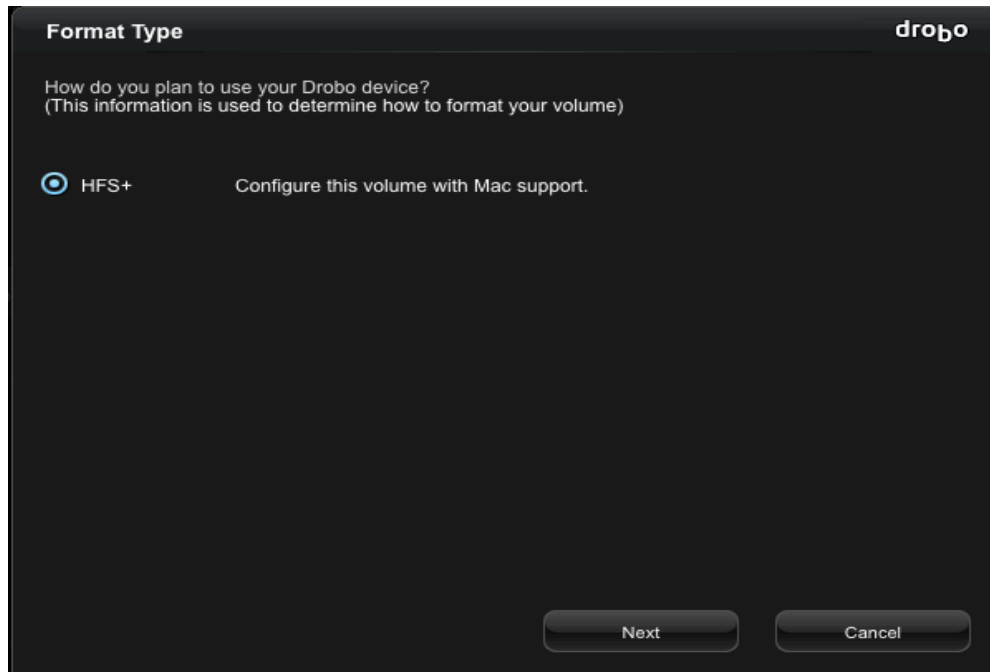## Provisioning Drobo Storage

STEP 1

Load Drobo Dashboard and select the Drobo to provision.

As Both the NAS and DAS Drobos are compatible with Carbon Copy Cloner, the next steps will be split between connectivity types.

- For DAS Follow the directions in step #2

- For NAS Follow the directions in step #3

STEP 2A – DAS

Drobo Dashboard will automatically select a **Format Type** recommends for the host operating system.

Click **Next** to continue

STEP 2B

Volume Size   drobo

How large would you like your volume to be?

1 TB   2 TB   4 TB   8 TB   16 TB

You will be able to store up to 16 TB of data on a volume. If you eventually need to store more data, then an additional volume will need to be created. On Windows computers, the larger the volume the longer it takes to start the computer or connect to the Drobo device. You should select a volume size that will be large enough to contain all your data for the foreseeable future.

Back   Next   Cancel

To take advantage of thin provisioning and instant expandability features of BeyondRAID, it is recommended that a 16TB thinly provisioned volume be created.

Click **Next** to continue.

STEP 2C

Volume Name   drobo

How would you like Drobo to name your volumes?

(You have selected a maximum volume size of 16 TB and you have 9 TB available capacity. Therefore, a single volume will be created.)

Volume	Name
Volume name:	Drobo 5D

Back   Next   Cancel

Enter a name for the volume that will be created on the Drobo and click **Next** to continue.

STEP 3A – NAS (FS/5N)
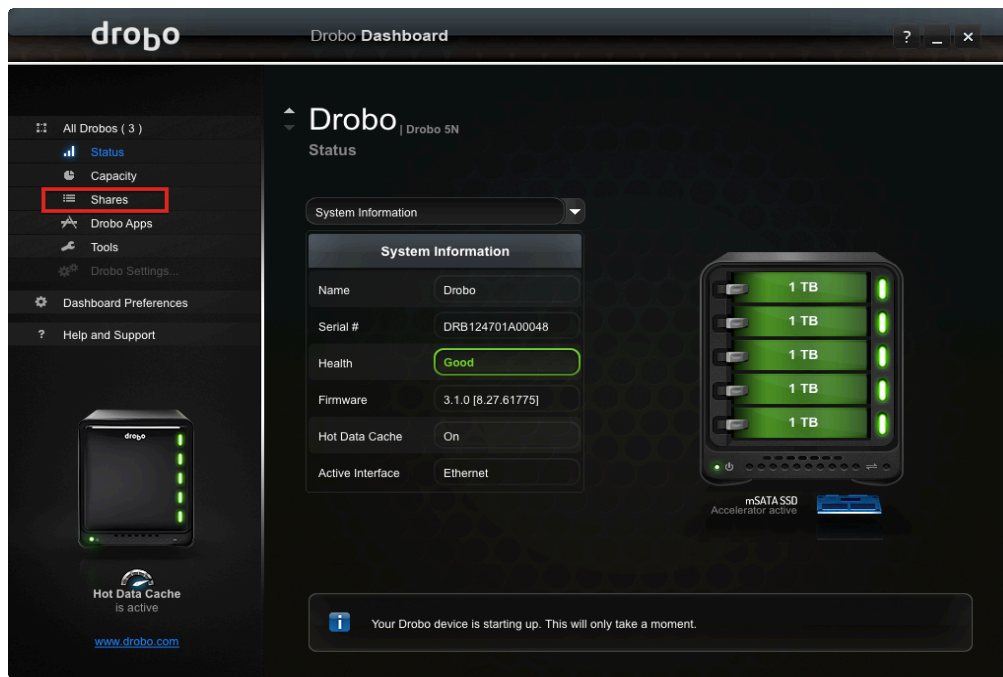
While a dedicated share is not required for Plex, it is recommended.

Click the **Shares** link on the left pane to access the share list.

STEP 3B
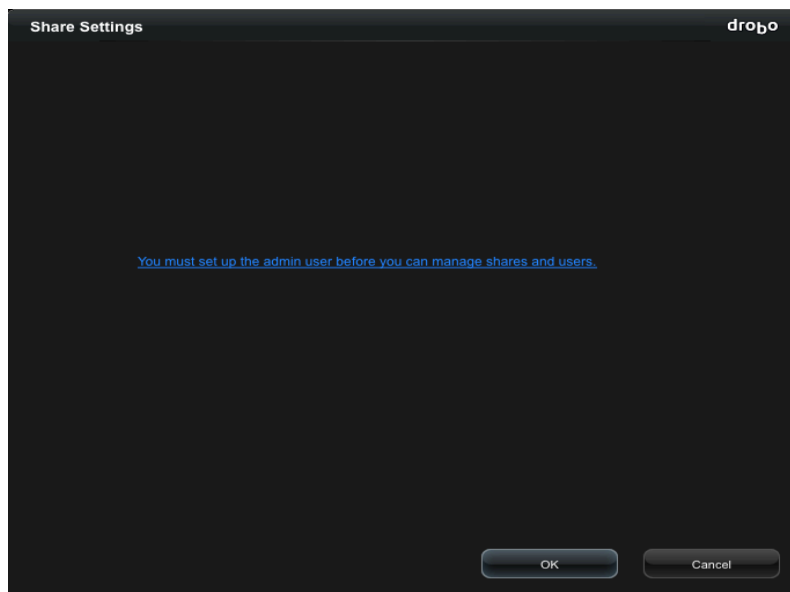
If no administrator username and password was specified during initialization, the Dashboard will prompt to create one.

Click **OK** to create an administrative account.

STEP 3C

Enter an administrator username and password that will be used to manage the Drobo.

Enter a username and password and click **OK** to save the account settings.

_NOTE – _ _Make a note of the account credentials. This will be required before any changes to the shares or configurations can be made._

STEP 3D

Click **Add** to create a new share on the 5N. In this example the newly created share is named **CCC_Backup**.

In this example the user access is set to **Everyone** allowing access to the share without a password.

To restrict access, click the **Users** tabe to create an additional user.

Click **OK** to create the share.

_NOTE – _ _The share user must have write access._

STEP 3E
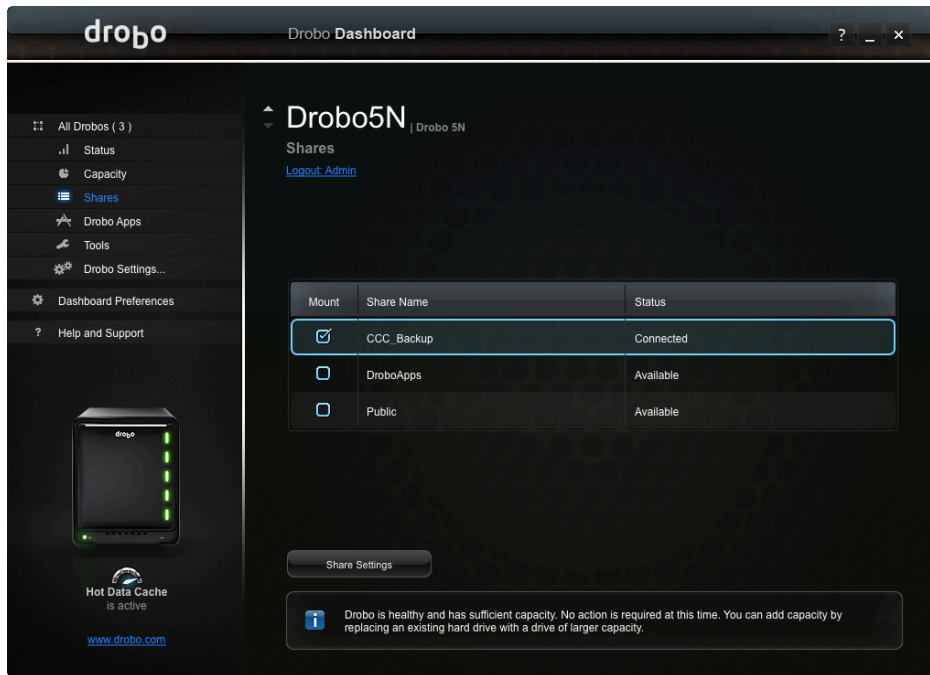
Once the share has been added, click to have it mapped to the host.

Backing up to an onsite Drobo using Carbon Copy Cloner

First go to Carbon Copy Cloner's website and download the program. In this guide we are only using the trial version of the software. After 30 days the app will require payment for continued use. The program can be purchased here: http://www.bombich.com

NOTE: Carbon Copy Cloner offers a lot of features that this guide will not cover.

STEP 1
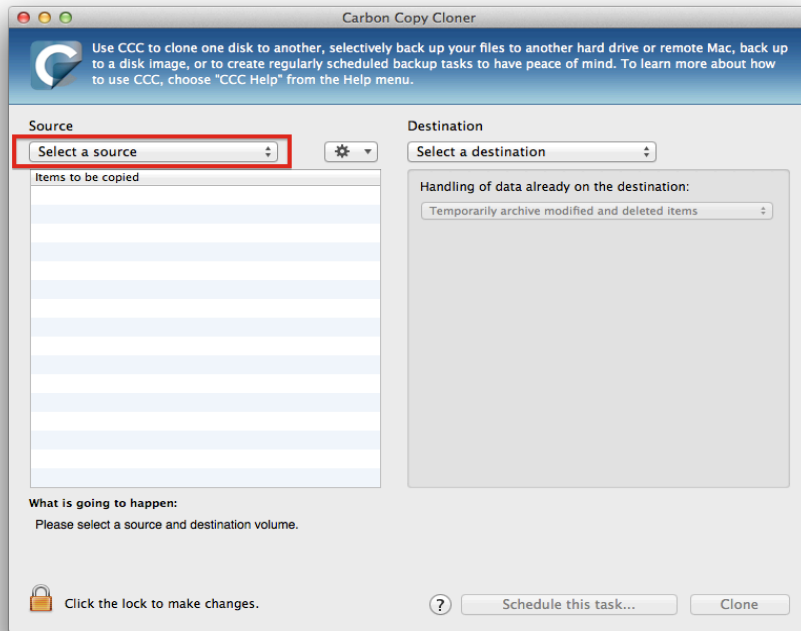
Once the application is installed and working this is the screen that will appear.

Select the dropdown menu that says **Select a source.**
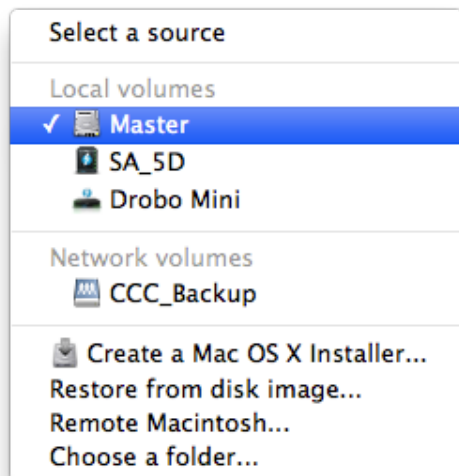
Select the computers internal hard drive as the source.

STEP 2
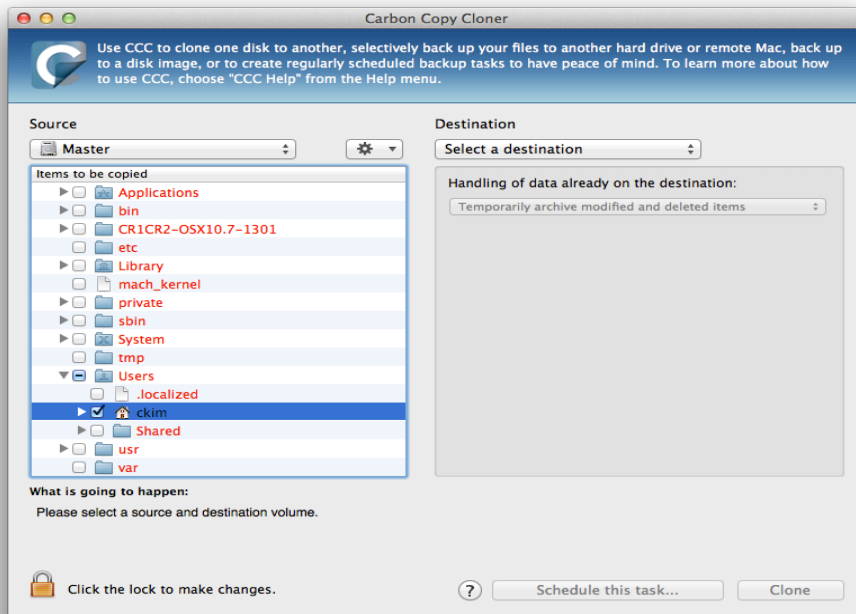
By default the program will select everything on the hard. In this example we are only select the users *Home folder*.

STEP 3
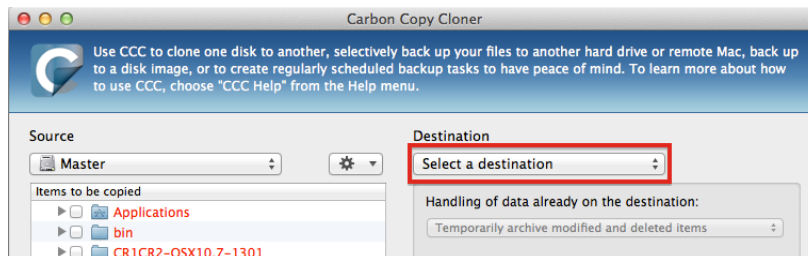
The next steps will cover selecting a target backup destination.

Select the dropdown menu **Select a destination**.
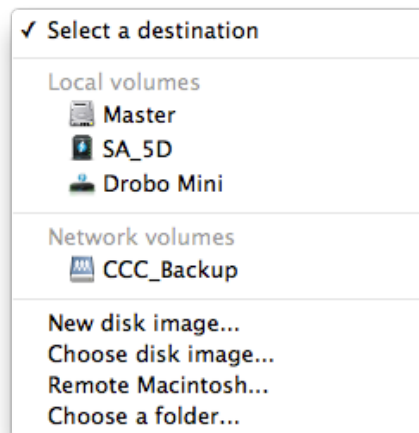
In this example we will choose the *Network volumes* and select the Share named *CCC_Backup* that we created earlier.

STEP 4
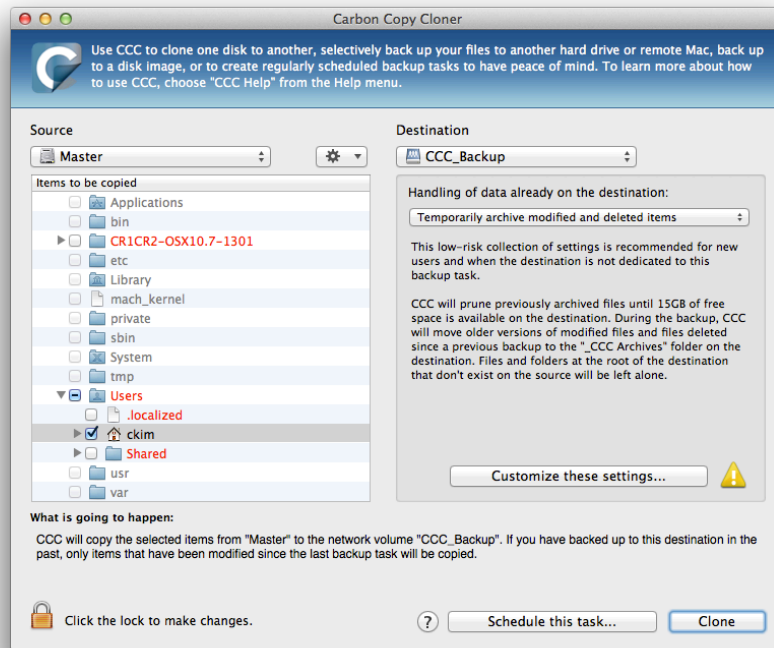
The following screen will allow one to choose how to handle the data. Carbon Copy Cloner offers multiple ways to backup the data. Each one has a description with it. Once everything is ready select **Clone** in the bottom right corner.
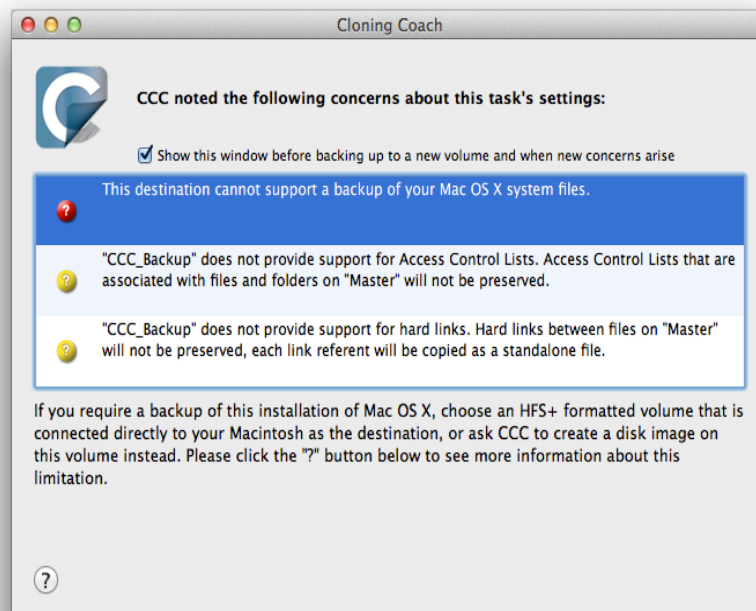
This is the screen that will appear once **Clone** is clicked. As the Drobo 5D, Mini, and 5N are not bootable targets at this time. Carbon Copy Cloner is just giving a warning that some of the functions they offer are not available.

STEP 5
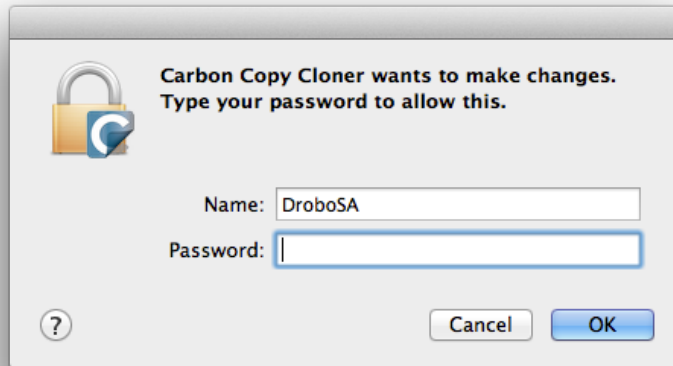
Type in the computers administrator password to begin cloning.
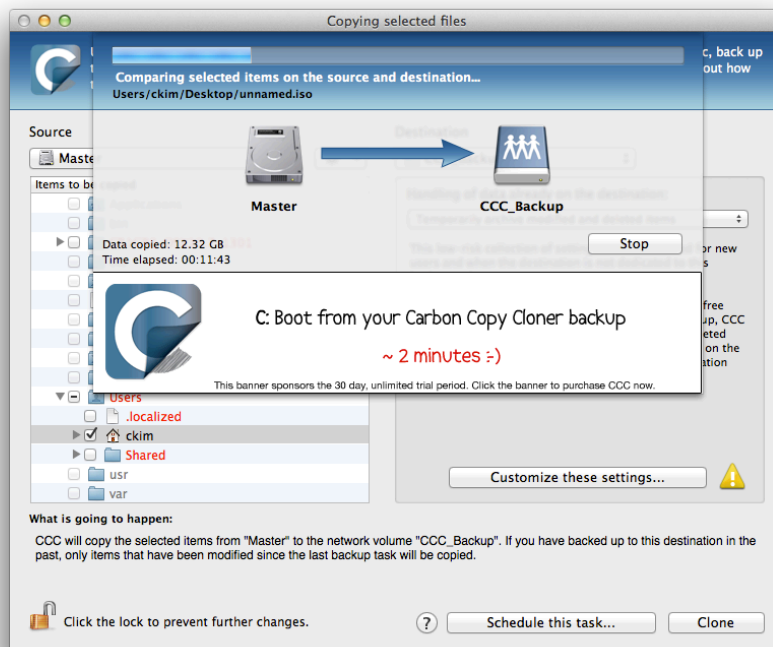
Once this screen appears. The steps were done successfully to backup the Mac to a Drobo.

Backing up a Drobo to another Drobo on the same network

Prior to starting these steps it is important to note that both computers need to stay powered on. We are going to refer to the source Mac as the Primary Mac, the destination Mac as the Secondary Mac.

STEP 1
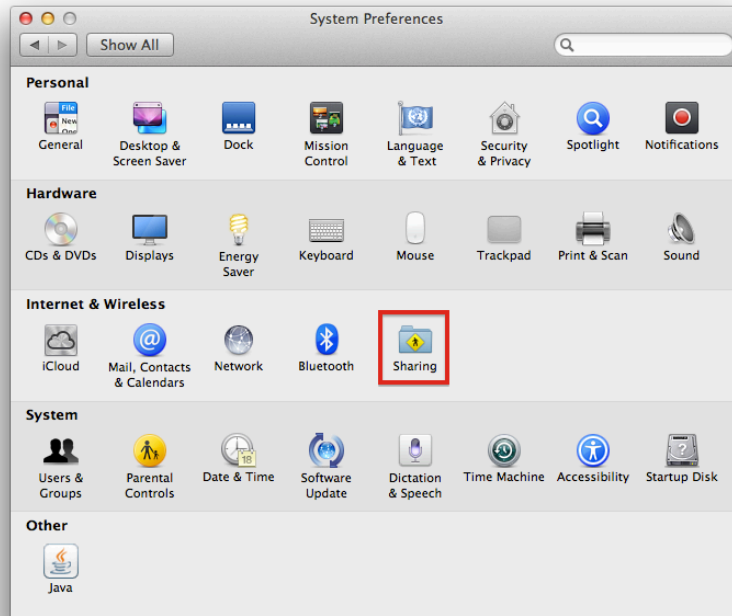
This first step must be done on both the Primary, and Secondary Macs.

Go to menu and select **System Preference**s, select **Sharing.**
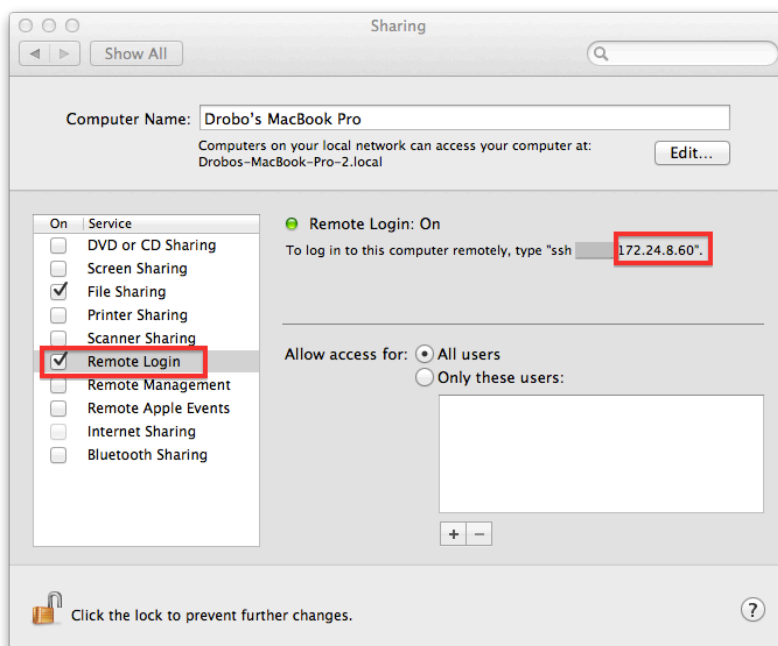
Enable **Remote Login** by clicking on the check box next to it.

Take down the *IP address* and have it saved somewhere. In this example we have highlighted what the IP address looks like.

STEP 2
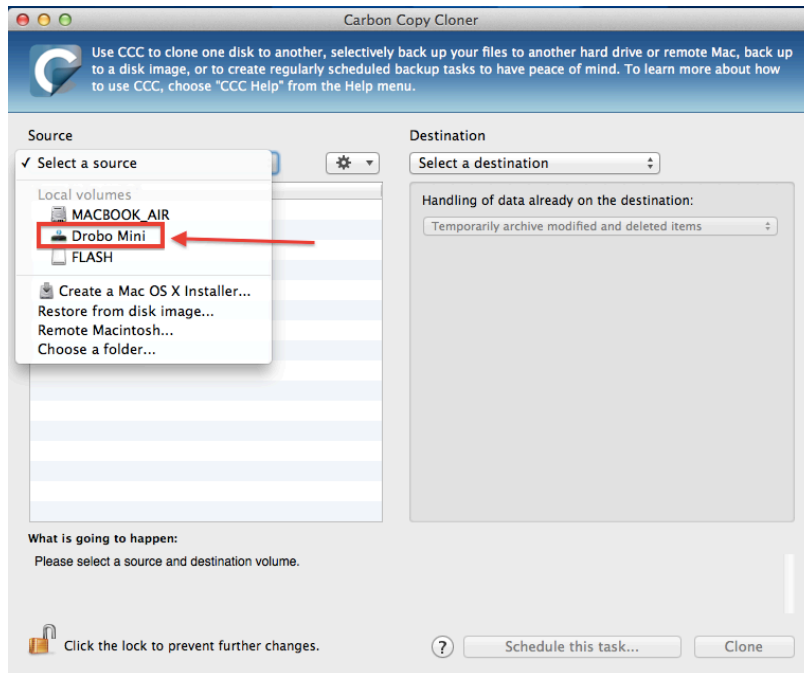
On the Primary Mac with the primary Drobo, launch the Carbon Copy Cloner application.

Click on **Select a Source**, and select the Drobo that needs to be replicated.
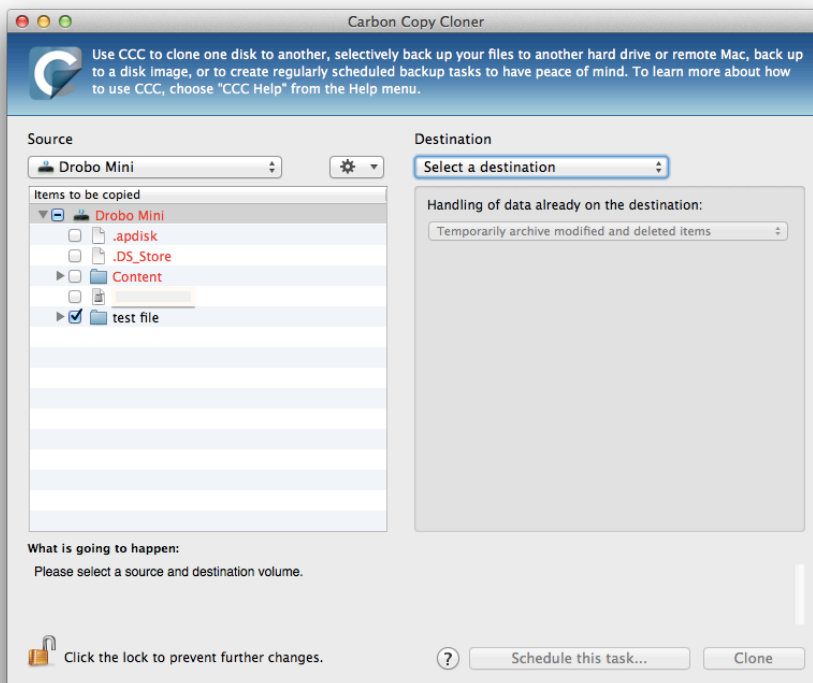
In this example we are only selecting a folder in the Drobo Mini.

NOTE: *The entire Drobo can be replicated; however the more data that needs to be replicated will take more time. This is where consideration for network traffic should be considered.*

STEP 3
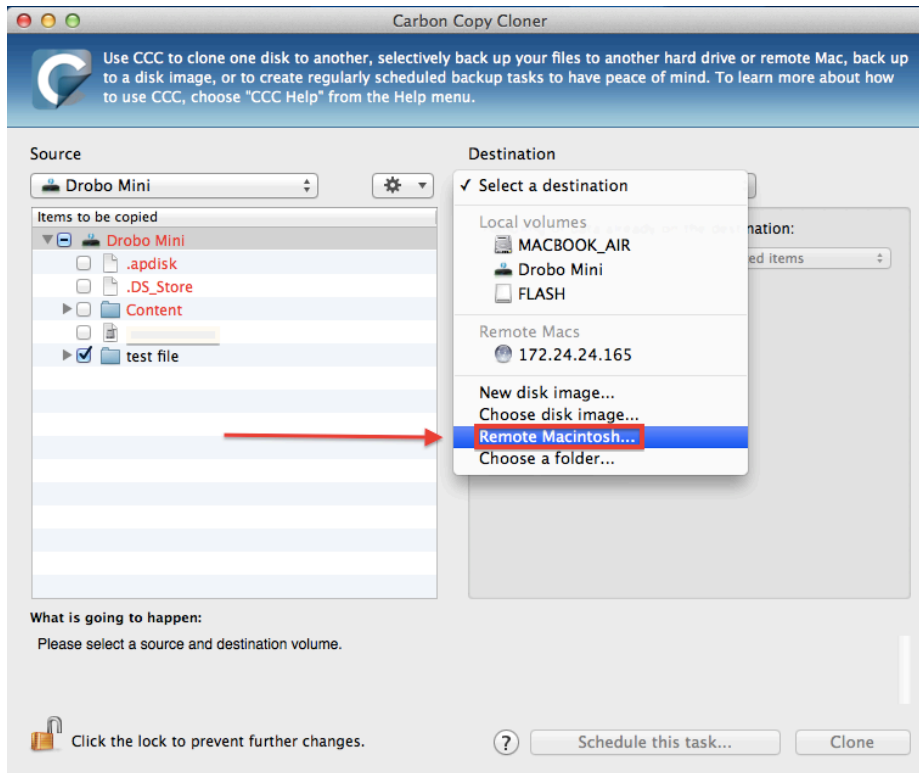
Under the Destinations section click on **Select a destinations**.

Select **Remote Macintosh**.
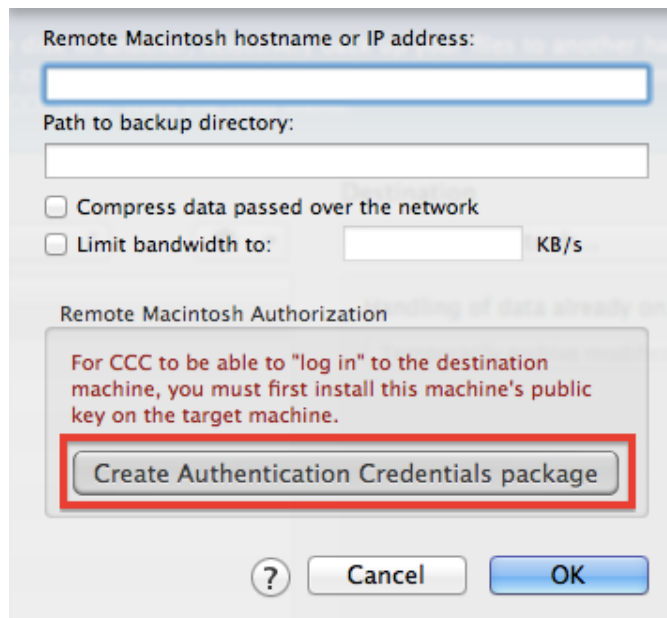
First thing that needs to done is click on **Create Authentication Credentials package**. By doing this an installer package will be created and be located on the Desktop of the primary computer.

Run and install this same package on both the Primary and Secondary computer.

STEP 4

Once the credential packages have been installed on both computers go back to Carbon Copy Cloner on the Primary computer.

Put the IP address for the secondary Mac into the first field. This is the IP address that we instructed to have taken down in Step 1 of this section.

Then input the backup directory for the secondary Drobo. The backup directory can be found by going to the secondary Mac and following these steps: Go to **Finder** -> under *Shared* **Drobo5N** -> a designated backup share in this guide it's named **CCC_Backup** -> In this share we have a folder called **Backup_Test**. Right click on the **Backup_Test** folder and select **Get Info**.

Once the info window appears under *General,* go to *Where* copy down the entire section to the *Path to backup directory* on Carbon Copy Cloner on the Primary Mac.

STEP 5

Once all the required fields are filled out as desired on the Primary Mac, click **OK**.

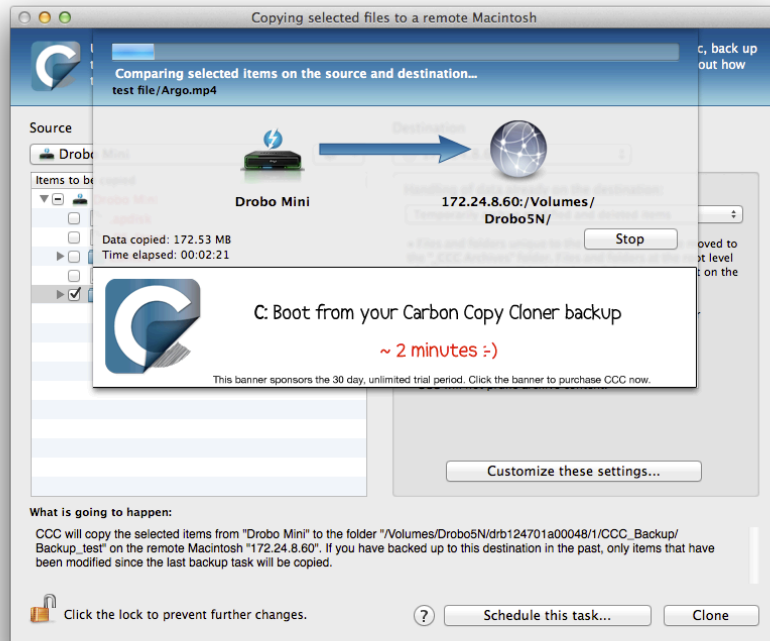***NOTE*** *- Other options available are compressing data or limiting the bandwidth. This is a nice feature that is available to not take up a lot of network traffic*

Click **Clone** in the bottom right corner of the window.

A window asking for the administrator's password for the Primary Mac will appear. Please input the password and click **OK**, to complete the backup process.

This is the window that will appear once everything is running properly.

NOTE – larger files take more time and more network traffic to transfer.

Carbon Copy Cloner also supports offsite replication, however there are far more steps involved that may not be ideal for our customers to setup. A few things that Carbon Copy Cloner recommends are a Static IP address or DNS name that are consistent. If one does desire to setup offsite replication these steps above are the last part of the setup process.